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**PTYCHOMITRIUM LEIBERGII n. sp.**

G. N. BEST.

In loose tufts, olive green above, ferruginous below; stems 1 cm. long, erect, central strand small, distinct; leaves thickish, crispate-incurved when dry, erect-spreading when moist, somewhat undulate, entire, margins plane, 3.5 to 5 mm. long, .6 to .8 mm. wide; from a concave, suboval base gradually linear-lanceolate, acute or blunt pointed; nerve thick, reddish, disappearing at apex; lamina mostly unistratose, bistratose in streaks above and on the margins; leaf cells uniform, somewhat distinct, median chlorophyllose, roundish-quadrate,  $10\mu$ , basal broadly rectangular, pellucid; monoicous; antheridial buds at base of pedicels, stipitate; perichetial leaves similar to but larger than stem leaves; pedicels reddish, 5 mm. long; capsules erect, elliptical, 1.3 mm. long, 7 mm. wide, wrinkled when dry; annulus broad, 3 rowed, separating readily and in fragments; exothecal cells thin-walled, polymorphous, 3 to 5 rows about the mouth thick-walled, reddish, flattened; peristome simple, teeth narrowly linear-lanceolate from a broader articulate base, yellowish, coarsely papillose, more or less irregularly divided, sometimes nearly entire; operculum acicular, 1 mm. long, zigzag on margin; calyptra campanulate, deeply lobed, plicate, rough at apex; spores minutely roughened, 13 to  $16\mu$ ; matures in the early part of February; on rocks, collected by John F. Lieberg, in whose honor it is named, near the south end of Baboquivara range, Arizona, February, 1906; altitude 4000 ft. Cotype in the Herbarium of the New York Botanical Garden.

*Ptychomitrium Leibergii* differs from *P. Gardneri* by its smaller size, entire leaves, somewhat undulate but not plicate, and by its peristomial teeth not divided to the base into filiform segments. The leaves in *P. incurvum* are bistratose above the middle, leaf cells smaller and less distinct and the peristomial teeth entire.\*

In *P. Drummondii* the leaves are denticulate-serrate, the peristomial teeth shorter and broader and split at apex and the annulus wanting. The leaves in the Mexican *P. rugosum* (Mitt.) Jaeg. are serrate above and reflexed below.

It would therefore seem that so far as the North American species of *Ptychomitrium* go *P. Leibergii* is well marked and quite distinct. Unfortunately it is described from a single collection. Future collections may show variations not recognized in this description. Mr. Lieberg assures me that it is "common in the mountains of southern New Mexico and Arizona from the Floridas in the former territory to the Baboquivara range in the latter, and probably extending much farther westward: southward into Mexico; not observed north of Southern Pacific R. R." I am indebted to Mrs. Britton for an examination of this moss and for the opinion that it is an undescribed species.

Rosemont, New Jersey.

\*Mrs. Britton claims that *P. pygmaeum* is only *P. incurvum* (Bull. Tor. Bot. Club, 21:497). However this may be I am of the opinion that we have two species passing as *P. incurvum* differing in size, basal cells and peristomial teeth, possibly connected by intergrading forms.



FIG. 1.

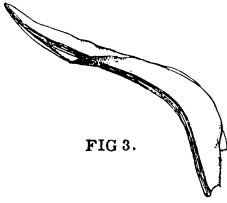


FIG. 6.

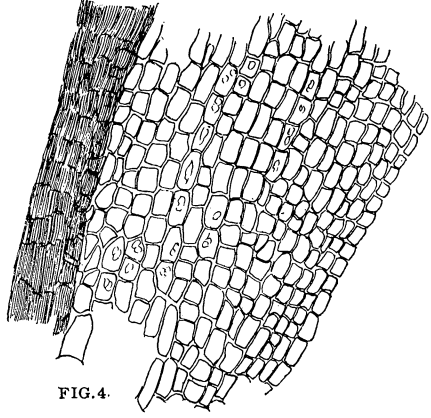


FIG. 4.



FIG. 7.

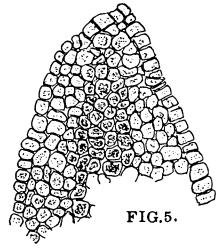


FIG. 5.



FIG. 2.

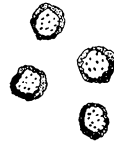


FIG. 8.

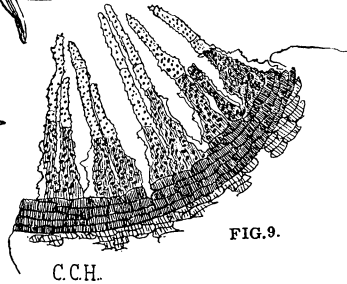


FIG. 9.

C.C.H.

PLATE VII.—Fig. 1, Plant *Ptychomitrium Leibergü.* Fig. 2, Same  $\times 22$ . Fig. 3, Leaf. Fig. 4, Base of leaf. Fig. 5, Apex of same. Fig. 6, Perichetial bud. Fig. 7, Calyptra. Fig. 8, Spores. Fig. 9, Peristomial teeth.

## SOME ADDITIONS TO THE FLORA OF MIDDLESEX COUNTY, MASSACHUSETTS.

REGINALD HEBER HOWE, JUNIOR.

The following plants were not included among the Lichens attributed to this County by Messrs. L. L. Dame and F. L. Collins in their List, published in 1888. The preface to the "Lichens" in the above work, will show that these additions are only a few, compared with those that may still be added, and are in no way remarkable. For the records from Sudbury, I am indebted to Miss C. M. Carr.

1. *Ramalina calicaris fraxinea* Fr.

This subspecies is not uncommon in Concord and Carlisle, on ash and elm trees. In only a few instances are the plants absolutely typical, the majority being somewhat intermediate between *fraxinea* and *fastigiata*.

2. *Cetraria Oakesiana* Tuckerm.

Not uncommon in Concord, on base of conifers and birch. Reported from Sudbury.

3. *Usnea barbata florida rubiginea* Michx.

Not uncommon in Concord, growing in a reduced state on black spruces, white pines, and particularly on rocks. Always sterile.

4. *Usnea barbata ceratina* Schær.

I have one example referable here.

5. *Usnea barbata florida strigosa* Ach.

Uncommon. Collected in Concord and Bedford on Maples. Fertile.

6. *Alectoria jubata implexa* Fr.

Reported from Sudbury, growing on larches in swamps.

7. *Physcia pulverulenta leucoleiptes* Tuckerm.

Common on elms, ash, oak, and apple trees. Rarely fertile.

8. *Physcia obscura endochrysea* Nyl.

Reported from Sudbury, on Rocks.

9. *Peltigera scutata* (Dicks.) Leight.

One unfruited and poor specimen collected in Concord, was with some doubt referred here by Dr. W. G. Farlow and Mr. G. K. Merrill.

10. *Stereocaulon condensatum* Hoffm.

I have collected one example of this species in Concord, on an old stump, and it is reported as not uncommon in Sudbury.

11. *Stereocaulon pileatum* Ach.

One example was found on a rock in Carlisle. I am indebted to Dr. Farlow for the determination.